

**WHAT IS CLAIMED IS:**

- 1     1. An apparatus for optically pumping a laser-active solid body with pumping light coupled  
2       into the solid body through an end surface of the solid body, the apparatus comprising:  
3           a laser-active solid body including an end surface through which pumping light is  
4       coupled into the solid body and a lateral surface through which pumping light exits the  
5       solid body;  
6           a reflector surrounding the laser-active solid body at a distance from the lateral  
7       surface of the solid body for reflecting light that exists the solid body back towards the  
8       solid body; and  
9           a surface for diffusing light that is coupled into the solid body through the end surface  
10      of the solid body and that exits the solid body through the lateral surface, wherein the  
11      surface is selected from the group consisting of the lateral surface and a surface of the  
12      reflector.
- 1     2. The apparatus of claim 1, wherein the surface for diffusing light is the lateral surface.
- 1     3. The apparatus of claim 2, wherein the reflector has a surface that diffusely reflects the  
2       exiting pumping light.
- 1     4. The apparatus of claim 2, wherein the reflector has a mirror-like reflecting smooth  
2       surface for reflecting the exiting pumping light.
- 1     5. The apparatus of claim 1, wherein the surface for diffusing light is the surface of the  
2       reflector.
- 1     6. The apparatus of claim 5, wherein the lateral surface of the solid body also has a surface  
2       that diffuses the exiting pumping light.
- 1     7. The apparatus of claim 5, wherein the lateral surface of the solid body has a mirror-like  
2       smooth surface.
- 1     8. The apparatus of claim 1, further comprising a medium disposed on the outside of the  
2       lateral surface having a higher refractive index than the solid body.

- 1 9. The apparatus of claim 8, wherein the medium is disposed in the form a layer on the  
2 lateral surface.
- 1 10. The apparatus of claim 8, wherein the reflector has a surface that diffusely reflects exiting  
2 pumping light.
- 1 11. The apparatus of claim 1, wherein a cooling medium flows through a gap between the  
2 solid body and the reflector.
- 1 12. The apparatus of claim 11, wherein the cooling medium is water.
- 1 13. The apparatus of claim 1, wherein at least 3% of the pumping light coupled into the solid  
2 body though the end surface is diffusely distributed in the solid body.
- 1 14. The apparatus of claim 1, wherein at least 20% of the pumping light coupled into the  
2 solid body though the front side is diffusely distributed in the solid body.
- 1 15. The apparatus of claim 1, wherein at least 40% of the pumping light coupled into the  
2 solid body though the front side is diffusely distributed in the solid body.